

Architectural Artifact and Study Collections—An Update

Emogene A. Bevitt

In 1993, *CRM* presented a thematic issue on Architectural Study Collections (Vol. 16, No. 8). The issue included articles on collections held by Colonial Williamsburg, SPNEA, the Smithsonian Institution, the National Park Service, and English Heritage. Essays on the ethical consideration of starting a collection and on the usefulness of such collections to educators were included. A special feature provided a richly illustrated view of different objects as seen from the perspective of such professionals as a craftsman, architectural historian, historical architect, engineer, and interpreter.

The following articles provide current information on this topic: new products; evidence of continuing discussion at conferences; a new viewpoint—that of an architectural conservator; and future efforts that are planned or are now possible.

Ed Johnson describes a Survey to Identify Collections Management Practices for Architectural Fragments sponsored by the Center for Historic Preservation at Middle Tennessee State University and the Association for Preservation Technology International's Architectural Fragments Committee. Roberta Reid discusses the round table on architectural fragments at the Oct. 1994 APT meeting. Barbara Coffee provides examples from her career that led to the recent discussion during the Mid-Atlantic Association of Museums conference in Annapolis, MD. Excerpts from a presentation at the AIA Committee on Historic Resources meeting about architectural artifacts are included. The care of collections developed by and for architectural conservators at the North Atlantic Region of the National Park Service is offered, as is the Viewpoint of an architectural conservator.

Second Lives

Second Lives: A Survey of Architectural Artifact Collections in the United States, (GPO Stock Number 024-005-01145-5; \$4.75 per copy) which lists over 170 collections of architectural elements and features removed from historic structures. Organized by state and by category of object with an article by Charles E. Peterson, FAIA, this 112-page book is only one aspect of a much larger effort. Order from Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

A Survey to Identify Collections Management Practices for Architectural Fragments

Ed Johnson

The Architectural Fragments Committee of the Association for Preservation Technology International (APTI) has begun a survey to determine the range of opinions and practices among institutions that have architectural fragments. This new survey is part of an ongoing effort to encourage the professional management of collections of architectural fragments. The goals for the survey are twofold: (1) What is the current state of collections management for architectural fragments? and (2) For those who are a few steps ahead in their concern, care, and documentation efforts, are there lessons learned that could help others?

Based on an analysis of the responses to the survey, the Committee will develop an interpretive report which will enable the preservation community to effectively design adequate training and promote increased awareness for the technical issues involved in dealing with architectural fragments. This information will be used as part of a National Park Service pilot workshop in collections management for architectural fragments scheduled to be held in Williamsburg in March 1995. Ultimately the Committee hopes to develop a set of guidelines to assist those who must manage collections of architectural fragments.

The new survey by the APTI Architectural Fragments Committee to identify collections management practices for architectural collections management practices for architectural fragments follows and supplements a previous survey by the National Park Service (NPS) entitled "Second Lives: A Survey of Architectural Artifact Collections in the United States." The NPS survey identified many collections held by museums, government agencies, for-profit companies, and individuals; the APTI survey seeks to expand this information to include detailed data regarding collection management practices.

Forms for the APTI survey are being distributed to all of the parties previously identified in the NPS survey. Others who might wish to participate in the new survey should contact Roberta Reid, Chair of the Architectural Fragments Committee, at the Colonial Williamsburg Foundation by phone at 804-220-7740 or fax at 804-220-7787. Ed Johnson, Research Coordinator, Center for Historic Preservation at Middle Tennessee State University, will collect the completed forms, analyze the resulting data, and develop an interpretive report; he can be reached at phone 615-898-2658 or fax 615-898-5614.

APT Architectural Fragments Committee

Roberta Reid

Talking about issues related to architectural fragments in a hotel's conference room seems to pale in comparison to a hike around the city looking at preservation projects. With this in mind, recent roundtables to discuss architectural fragments have taken place at sites where participants can form opinions about a particular use of fragments. The following project history portrays how construction of the Jackson Federal Office Building, which took place between 1970 and 1974 in Seattle, WA, recently provided the perfect setting to discuss architectural fragments.

After the great Seattle fire of 1889 destroyed virtually the entire downtown, architects such as Elmer Fisher took advantage of an energetic building campaign and presented the city with a new, stylish appearance. The Romanesque-style Burke Building, considered "a terra cotta extravaganza," was designed by Fisher and completed in 1890.

However, in the third quarter of the 20th century, the face of Seattle began to change again with the introduction of new office towers. A 37-story federal office building was proposed by the General Services Administration to replace the 6-story Burke Building. The Seattle firms of Bassetti Architects and John Graham Associates were hired to work in joint venture on the project. Try as he might, architect Fred Bassetti was unable to convince GSA to save the historic Burke Building. Bassetti was equally unsuccessful in his request to construct the new tower of brick and terra cotta, in keeping with the traditional Seattle streetscape. Instead, GSA opted for precast concrete panels, saving \$200,000 in their \$42 million project.

Testing the limits of patience with the federal government, Bassetti finally convinced GSA to let him use architectural fragments from the Burke Building. For the first time in Seattle's modern era of construction, architectural fragments were re-used in a new building rather than destroyed. Ten major pieces, including a massive sandstone arch, embellished outdoor stepped plazas and enhanced the employee cafeteria. Newspaper articles declared the project "a tribute to the Federal Building's predecessor" which incorporated "nostalgic features to provide touches of warmth and intimacy." The features created important identifying elements in the Seattle cityscape that made the building "one of the warmest, most human governmental buildings around" (source of quotes: *Daily Journal of Commerce* 1974, *Seattle Times* 1975, and William Marlin, n.d.)

Today, the fragments stand preserved as integral parts of the exterior and interior of the Federal Building. Although separated from their original context and unidentified to current passers-by for their historical association to this site, portions of the Burke Building have been saved, not lost, thanks to a persistent architect.

Is this project a good example of the re-use of architectural fragments? Does it teach us about Seattle's history and early building technology? Since none of the loose architectural fragments can be found, does the project become more acceptable to critics? These questions were posed to an interested group of participants at a roundtable of the



The original arch from the Romanesque-style Burke Building forms an inviting entry to the brick plaza of the Jackson Federal Office Building.

annual conference of the Association for Preservation Technology International (APT) which took place October 5-8 in Seattle. Fred Bassetti, the architect who fought for the Burke Building and who has since retired in Seattle, led the group on a tour of the Federal Building, describing his crusade to link Seattle's History with modern architecture. The group then proceeded to the Arctic Club where they discussed this project and compared it with issues nationwide regarding architectural fragments.

Because discussions about the need to recognize and preserve architectural fragments as collections have taken the forefront in preservation meetings lately, an architectural fragments committee was formally established at the APTI conference to pursue the following objectives:

1. Establish a network of individuals and institution who collect, own, or manage architectural fragments. For example, periodically update the survey, *Second Lives: A Survey of Architectural Artifact Collections in the United States* (National Park Service publication; next update publication identifying 170 collections due out December 1994).
2. Promote better management of architectural fragments by identifying their value as collections. For example, conduct a survey to identify current collections management practices among institutions and individuals with architectural fragments (already an APTI Architectural Fragments Committee venture with expenses paid by Middle Tennessee State University); questionnaire to be distributed October 1994.
3. Teach collections management practices for architectural fragments. For example, conduct a workshop in Williamsburg, VA in March 1995 to share information about collections management practices for architectural fragments (NPS Partnerships in Cultural Resources Training grant for \$5,400 received August 1994). Then, based on this pilot workshop, conduct additional workshops in other

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locations. Also, participate in panel discussions at conferences wherever possible, such as the upcoming Mid-Atlantic Association of Museums conference November 16, 1994.

4. Publish useful documents, such as recommended guidelines for collecting, accessioning, and deaccessioning architectural fragments.

The members of the committee now include: Emogene Bevitt (National Park Service), Ed Johnson (Center for Historic Preservation at Middle Tennessee State University), Thomas H. Taylor, Jr., Carey Howlett, and Roberta Reid (all from The Colonial Williamsburg Foundation), Lonnie Hovey (The Octagon), William Brookover (Independence National Historic Park), and Christine Curran (Eugene, OR).

Lee H. Nelson, FAIA and founding member of APTI, promoted increased knowledge of preservation technology throughout his career. Creating such a committee follows Lee's long-term goals of using architectural fragments as teaching tools, rather than simply as collections of interesting artifacts to admire. In fact, one of the first aims and objectives of APTI was to "encourage the establishment of National and Local collections of reference material, tools and artifacts for study purposes." The establishments of such a committee is very timely since many APTI members wish that they could honor Lee by pursuing the dreams that were important to him. Anyone interested in either joining the committee or just receiving information about the committee's projects should contact Roberta Reid, Chairman, APTI Architectural Fragments Committee, c/o The Colonial Williamsburg Foundation, P.O. Box 1776, Williamsburg, VA 23187-1776, or call 804-220-7740.

Rooms, Roofs, and Railings Discussions and Thoughts on the Management of Architectural Collections

Barbara Coffee

In 1982, the National Museum of American History dismantled the exhibition, *Everyday Life in the American Past*. The exhibit had been installed in 1964 and contained approximately ten period rooms. Most rooms were acquired for the new museum and were from 17th to 20th century houses from Massachusetts to California. Each room had been photographed, recorded, marked, and disassembled on-site by contract specialists or museum staff. Twenty-five years later, the rooms were dismantled brick by board and placed into empty gallery space made available by changing exhibitions.

In 1988, the museum Master Plan to renovate the building facilities began and all collections had to be moved out of the way of the contractors. The architectural elements were designated to go either into new exhibits or to permanent storage off-site in Silver Hill, Maryland. The curators, conservators, and the collections

management staff decided that it was time to verify and expand the original record and to treat the various pieces as individual objects.

Current museum practices required that collections be identified, uniquely marked, cleaned, and housed so that each object could be better preserved, inventoried, easily retrieved, and tracked to each new location. While common to other collections, the museum had not had to apply these practices to this type of collection before. Current techniques and materials were considered, adopted, adapted, or improved to develop procedures for these collections.

As we cleaned each brick and board, tagged them, and banded or crated groups of objects together; I had to wonder how other architectural collections were managed. Were we going too far for collections which had traditionally been piled on open shelving or leaned against walls in storage, or were we developing techniques which might be useful to other institutions? Some staff questioned whether all items were original and/or well documented enough to justify such treatment. Large items were threatened with reduction to a more manageable size such as cutting long boards or taking apart large doorways. Were period bricks to be considered accessioned objects or props and did we really need to keep all of them? The answers to all of these and other questions were pressured by the expense of treatment and storage and the lack of time and staff resources. Fortunately, professional responsibility prevailed, and the collections were processed and treated as other collections in the museum.

After the project was over, I continued to wonder about similar collections in other institutions. Whenever I traveled to museum conferences, I made a point of visiting local museums with architectural collections and talking to the staff about collections management issues. Few collections were as large as ours and few had been dismantled and placed in storage. Rather, many were stored in the traditional "piles" without proper identification, subject to preservation threats, and not easily retrievable.

At the same time, I began to notice a movement within museums with such collections to begin to look for ways to record these items and to improve storage and handling techniques. Also, architectural historians were becoming more and more interested in the collections held by museums and were holding meetings to discuss their concerns. It seemed that the time was right for professionals to come together to address the collection management concerns unique to architectural elements.

On November 16, 1994, a two-part session on the management of architectural collections in museums was held at the Mid-Atlantic Association of Museums in Annapolis, MD. The panel consisted of museum curators, collections managers, and professionals from the architectural history field. Limited to architectural structures and elements in museums, the session covered collecting, recording, registration, care, use, and storage. It met the goals of the session to broaden the professional network and to identify common problems and possible solutions. More importantly, it will lead to continued discussions on this subject.

The Importance of Architects to Architectural Artifact Collections

Emogene A. Bevitt

The American Institute of Architects' oldest standing committee is the committee on historic resources, 104 years young. At least 100 of its 1,100 members were present for a quarterly meeting in Washington, DC, on November 3-5, 1994. The following is an excerpt from a brief presentation to committee members on some of the growing interest in architectural artifact collections and the importance of their involvement.

"I know that many of you have found this collection type important in your work. But you may or may not have thought about calling it a collection and looking at how to care for it. I'm here to alert you to the fact that this is the wave of the future and it is almost upon us. The museum community is now ready to devote some time and attention to this type of collection. But they cannot tackle this without your help and advice. This is one collection type that will call for cooperation and involvement by architects, conservators, curators, historians, architectural historians and many others if the lessons these objects can teach are to be appreciated, and if they are to receive the care they require. Just as knowledge about historic buildings takes years to acquire—years of living with them, watching materials in place as they are impacted by the seasons and the sun. These parts of buildings can provide a lot of information but only to those who know what they are looking at.

Documentation of each artifact is important — to know which building and where on the building the element is from. But understanding the information about selection of materials, craftsmanship, use of tools, application of technology to solve problems—you have this. We need you. Please help."

Workshop on Current Collections Management Practices for Architectural Fragments

Emogene A. Bevitt
Roberta Reid

As interest grows in what can be learned from architectural artifacts, the preservation community is gradually coming to better appreciate these resources. We know that many collections exist, yet at this time no guidelines or training adequately address the care and management of this collection type. We are pleased to announce that a Workshop on Current Collections Management Practices for Architectural Fragments will be held in March 1995 at Williamsburg, VA, to discuss and develop draft guidelines for the collection, care, and conservation of architectural artifacts. Co-sponsors include the National Park Service, APTI, Middle Tennessee State University and Colonial Williamsburg.

This workshop is a pilot effort and the workshop results will be used to develop future training and to disseminate written, practical, low tech guidelines for the documentation, care, and use of architectural study collections.

Instructors for the workshop will prepare written papers for the workshop workbook. Participants to the workshop will discuss issues pertinent to the care of architectural fragments and elements. Such issues include:

Focus A. Identifying Value, Determining Best Use

One of the key elements in this equation is the interdisciplinary nature of those interested and knowledgeable about these artifacts. Other Questions To Ask: How is the collection being used currently? How could it be used as a study collection? What other uses can we propose, e.g. exhibition, classroom training? What types of expertise exist to assist curators in evaluating the significance of elements within a collection? How much of any one type of object or portion of a structure or element should be kept? Do collection managers have written access procedures and policies? From the curation viewpoint, what qualifications do researchers need? From the architectural historian, historical architect, period engineer or historic preservationist viewpoint, what qualification requirements would obstruct use of the collection? What should scope of collection statements say about architectural study collections? The goal will be to develop consistent ways of applying collections management technology to this collection type.

Focus B. Documentation

What kinds of documentation are advisable in initiating or expanding a collection? What have others done to develop documentation after the fact for an existing collection? How are databases currently augmented with storage information and photographic images of objects? How are fragments cataloged, labeled, accessioned? How does the management of this information help with the use? How is the expertise necessary to identify elements obtained?

Focus C. Storage, Security, Climate Control

What are the key factors to consider in providing adequate storage, security, fire protection, and environmental control? What can be done to reduce handling of objects and yet make them accessible for study? What kind of equipment is on the market to move large heavy pieces? What problems have arisen through use and what are some of the solutions? How much care is enough? If what you have is a complete disassembled structure, does it have special storage and documentation concerns?

In addition to some lectures by instructors, there will be an opportunity to share expertise, engage in discussion, view specific collection concerns, and then participants will break up into smaller groups to study specific aspects and develop recommendations for treatment, care, storage, exhibit, study, etc. Those interested in learning more about the workshop, may contact Emogene Bevitt at 202-343-9561, or Roberta Reid at 804-220-7740.

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An Architectural Conservator

A by-product of the work of the architectural conservator¹ is a class of architectural artifact that, when properly maintained and used, can be a vital tool in the understanding and care of historic structures. It is the lens of the microscope that enables the architectural conservator to uncover from this artifact class hidden secrets—secrets that have the potential to favorably alter the future of a structure, and add to our understanding of a historic building material, technology, or practice.

Learning Through the Lens of the Microscope

Carole Louise Perrault

The architectural conservator creates a certain class of architectural artifact in the process of doing his/her work, which is the systematic study of historic fabric and structures. The value of an architectural artifact in this class is not fully recognized until it can be studied microscopically or with the aid of other analytic methods in the laboratory. This artifact must be enhanced, manipulated, or processed in some way to obtain useful data. The data thus obtained, in turn, will speak in inventive ways to the history of the architectural element, room, or structure, and to the technology, physical properties, and conditions of the particular building material itself.

These architectural artifacts are often only microscopic fragments, selectively and expertly garnered by the architectural conservator from the raw materials that compose our architecture. They are fragments of the paint and wallpaper that protect and decorate architectural surfaces, and the mortar and metal fasteners that bind together the larger structural elements. This class of artifact is commonly collected to answer questions formulated by the architectural conservator in the process of preparing historic structure reports and/or conditions assessments.

At the National Park Service's Cultural Resources Center (CRC) in Lowell, MA, these fragments (or samples) are cataloged according to material type; i.e., paint, wallpaper, nails, and mortar/plaster. Each material type constitutes a subcollection within the broader architectural-artifact collection of the CRC. The artifacts that comprise these subcollections provide data essential for the documentation and treatment of historic structures within the National Park Service.

Customarily, samples are generated to serve an immediate goal; e.g., to date architectural features, to determine how a room may have looked at a specific point in its history, or to obtain insight into a structural or building-material failure. The preservation of these artifacts in their respective subcollections, however, also provides future benefits. The artifacts become part of the building file for that structure, which can be used to assist with long-term care for the structure. In addition, these arti-

facts have the potential to speak eloquently about specific regional and period trends, as well as the general evolution of building technology and practices. Locked within these material fragments of our built culture are clues to the histories of the technologies that gave the material its form and shape. These histories are in large measure the stories of the craftspeople who over centuries developed, applied, and perfected the technologies.

In the context of a structure, each sample offers information that is limited to its particular removal site and material type. Only a comparative analysis of the sample with the broader population of samples (of the same material type) for that element, room, or structure can provide answers to larger questions. More often than not, several artifact types (paint, nails, mortar/plaster) must be studied in concert to develop a complete and accurate picture. A typical project to prepare a historic structure report is cited below to illustrate this concept.

The National Park Service acquired the birthplace of John Adams, second President of the United States, in 1978.² A historic structure report was immediately begun to understand the building's evolution and to make specific recommendations for its restoration. The first phase in the research process consisted of an existing-conditions survey. This survey addressed not only physical and structural problems, but also questions of architectural evolution. Evaluation of the survey data was influenced by the historical documentation that had been collected on the birthplace, and by the architectural conservator's knowledge of relevant period technologies and styles, and regional construction methods. From this combined architectural-survey and historical-research phase, a conceptual image of how the house had evolved through the centuries was drawn.

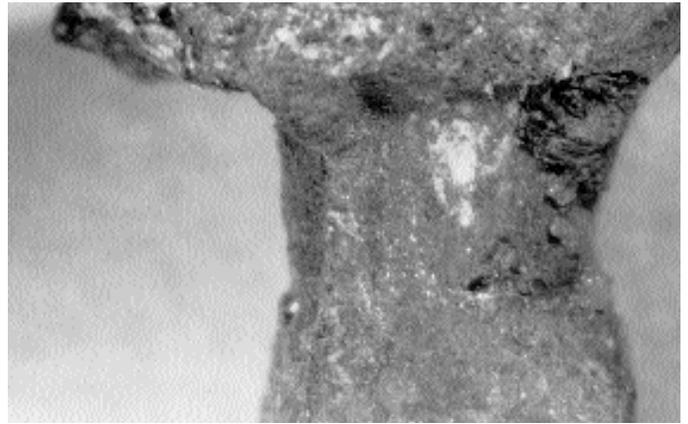
To confirm or refute this image, a second phase of more detailed analysis was initiated. This entailed the retrieval of artifacts such as paint, wallpaper, nails, and plaster samples. These artifacts were selectively taken and analyzed by the architectural conservator with a calculated goal in mind based on the hypothetical image of the house's evolution. It was this data that generated the most insightful information on the evolution of specific architectural features throughout the building. This enabled treatment recommendations to be formulated not only for individual features, but also for entire rooms and the exterior of the house, as well.

An example of this process may be seen in the way the architectural conservator was able to define the alterations to the birthplace's parlor that were made by the Thomas Boylston Adams family during their residency between 1810 and 1819.³ Historical research revealed that they were the last Adams family to live on the Penn's Hill farm. A letter sent in 1811 to Thomas by John Quincy Adams (his brother, who then owned both birthplaces) authorized repairs to make the "dwelling" more comfortable, although no record of the exact nature of the repairs has been found. The architectural conservator's task became one of identifying the parlor's floor plan, individual architectural features, and finishes for this period. The following illustrations address how the architectural artifacts extracted from the building fabric associated with a doorway in this room offered insight into the parlor as it was known by Thomas Boylston Adams.



Fig. 1. John Adams Birthplace, Parlor, North Wall, Door to Lean-to, Existing Conditions, 1979. Hidden behind this doorway's surfaces is a complicated history. Investigative analysis of the wall around the doorway, along with the analysis of artifacts taken from their features, suggested the following evolution. Originally, this north wall was an exterior wall without a doorway. Shortly after construction, presumably when the lean-to was extended across the entire north side of the main house, a doorway was introduced. During the Thomas Boylston Adams remodeling, the doorway was eliminated and the opening closed with plaster. In the mid-19th century a doorway (seen above) was reinstated on this wall. However, the new doorway was not in the exact position of the earlier doorway, but was located about a foot farther east. Apparently, the originators of the second doorway did not know that a doorway had previously existed in this relative location. Multiple artifacts were removed from the features associated with this doorway. A closer look through the microscope at each artifact type and the information that it provided relevant to the identification of the Thomas Boylston Adams period treatment follows in figures 2-5.

Fig. 2. Detail of Early Machine-Cut Lath Nail, Shank Directly Under Head, Magnified. The nail type represented in this photograph proved to be a valuable artifact in the identification of the architectural alterations to the John Adams birthplace that were made by the Thomas Boylston Adams family. The diagnostic features of this



nail (specifically, the design of the head and the shank below the head) link it with a nail type produced and/or used in the Boston area between 1796-1815. The characteristic head of this nail type lacks uniformity in shape and size. It is positioned generally eccentric to the shank; i.e., lopsided. In addition, there is a distinct roundness (necklike) under the head that was created by the compression of the clamping device (a heading vise used to grip the nail). This nail type was found securing the lath for the plaster that covered over the first doorway described in figure 1. Its manufacture date suggested that this alteration to the parlor was made during the Thomas Boylston Adams period.

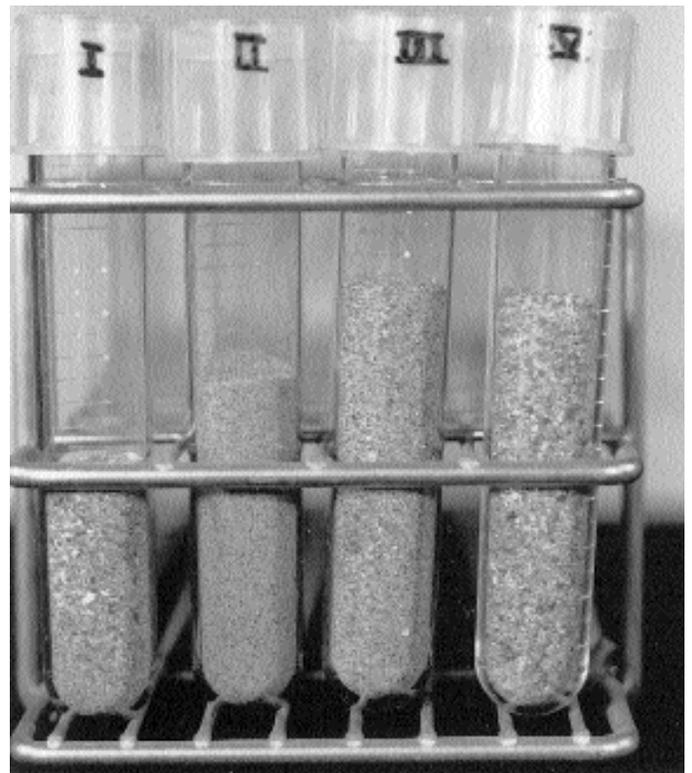


Fig. 3. Examples of Plaster Sand Types, After Analysis. Note that aggregate composition, size, and quantity differ between types. The architectural conservator retrieved a population of plaster samples for analysis from locations throughout the birthplace. These plaster samples were taken from areas of known, suspected, or

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unknown date. Following analysis by acid digestion, the sand remains were compared. Four sand types were identified. Because Sand Type III was associated with the early cut nail described in figure 2, it was concluded that this plaster related to repairs made during the Thomas Boylston Adams period, as well. The thickness of this plaster averaged around three-eighths of an inch, and it is secured to a hand-rived lath. The hand-rived lath is noticeably wider (2 inches) than the hand-rived lath associated with Sand Types I and II. In a few cases, wrought nails were found securing the lath along with the early cut nails. It is not unusual to have these two types of nails being used simultaneously. This type of hand-rived lath was discovered in the remains of the infill used to closeup of the first doorway described in figure 1.

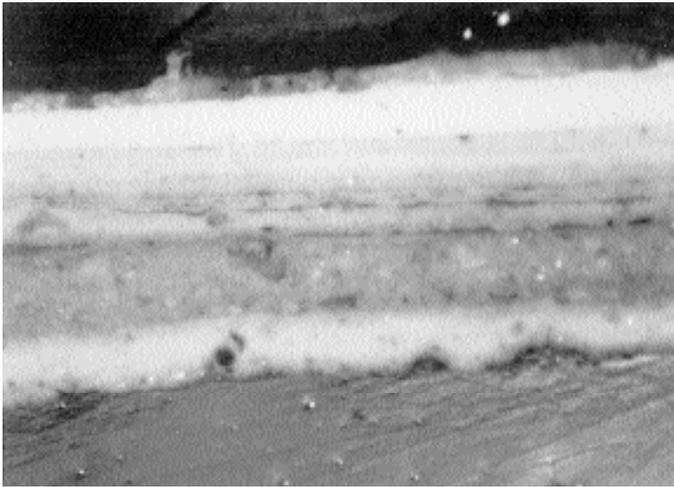


Fig. 4. Polished Cross-Section of a Paint-Sample Artifact. Paint research was performed at the John Adams birthplace to help date architectural elements, map the history of the finishes throughout, and identify period-specific finishes for the restoration date(s). Microscopic paint samples offer the most information with the least amount of destruction to historic fabric. Through an analysis of such samples, the conservator is able to unravel layers of cultural deposit left in a structure by its residents over the centuries. Dating of paint finishes occurs most often in the context of where the sample was extracted—clues that are provided by the style of the architectural element supporting the paint or the nails securing that element. Relative dating of paint finishes may occur once benchmarks in a sample stratigraphy for a particular feature or room have been established. This sample was taken from a feature that was secured with the period nail described in figure 2. It contains the 19th- and 20th-century paint finishes for the wood trim in the parlor of the John Adams birthplace. The finish from the Thomas Boylston Adams period is at the base of the sample, while the most recent finish is found at the top. The Thomas Boylston Adams finish is a pigmented oil paint, greenish-gray in color, and containing large hand-ground multi-colored particles of pigment.

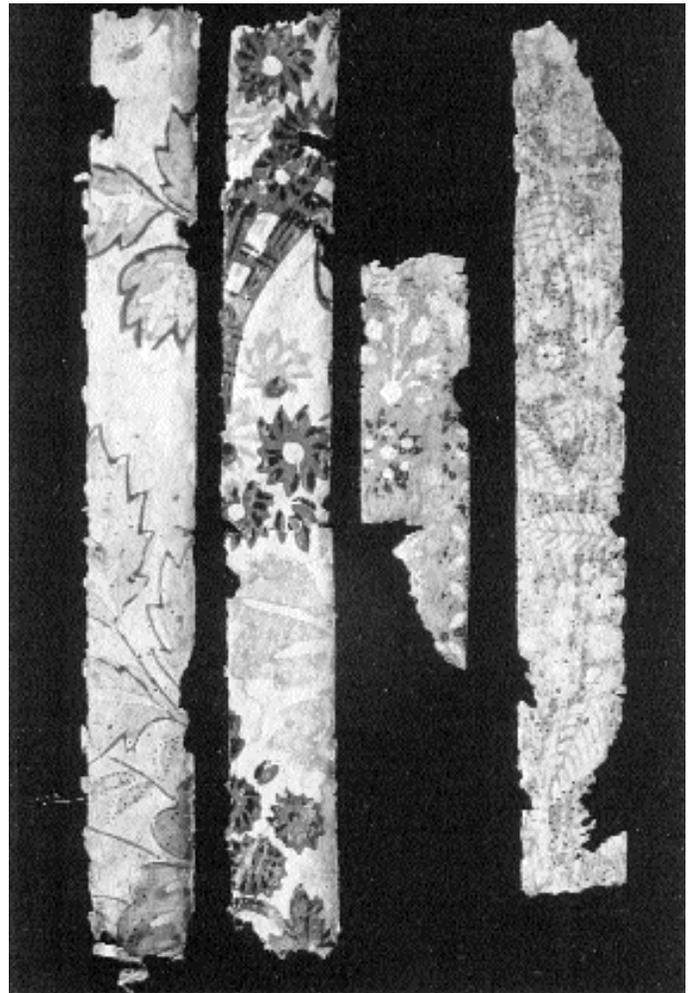


Fig. 5. Wallpaper-Sample Artifact, Containing Four Layers. This artifact was found under the trim on the north side of the doorway illustrated in figure 1. (Virtually all of the historic wallpapers have been removed from the parlor walls, so that such concealed locations are the only place where they survive.) The architectural conservator discovered that at least 10 different wallpaper treatments were used in the parlor during the 19th century. Laboratory analysis of the sample shown above found that it contained four layers. The earliest layer (at right) was applied during the circa-1811 remodeling work by Thomas Boylston Adams, when the first doorway here was closed. It is a laid paper, block-printed with distemper paint in a leaf pattern. The paper may be English, and its principal colors are green on an ivory ground with black pin-dots. The latest layer (at left) was the last one applied before the second doorway was created in the mid-19th century.

Notes

See footnotes at end of following article by the same author.

Artifacts of the Architectural Conservator: An Approach to Their Care and Use

Carole Louise Perrault

Your architectural artifact types commonly generated by the architectural conservator at the National Park Service's Cultural Resources Center (CRC) are explored here. They are paint, wallpaper, nails, and mortar/plaster samples. This article discusses the nature of each artifact type and how it is processed, analyzed, and stored at the CRC. More importantly, it presents the range of information that each artifact type may provide once it is enhanced, manipulated, or processed by the architectural conservator.

The artifact generally begins its life as a sample retrieved by the architectural conservator.¹ The sample is taken with purpose by a professional having expertise in history, architecture, archeology, and science.

After its retrieval, the sample is placed in an artifact container for its journey to the laboratory. There the sample is given an identification number as it becomes part of the appropriate subcollection of the CRC's architectural-artifact collection. Both the processed sample and the unprocessed remains of the original sample carry the same artifact ID number.

The architectural conservator is trained to use a variety of scientific methods and instruments, depending upon the building material being studied and the project goals.² However, the principal analytic tool of the architectural conservator is the binocular microscope. Other specialists who employ more advanced instrumental analysis are commonly called upon for material analyses that are beyond the expertise of the architectural conservator.

Paint. Paint-sample artifacts are most often only several millimeters in length. They are mounted either semi-permanently in petri dishes partially filled with microcrystalline wax, or permanently in cubes of casting resin that are then polished. The former are stored in specially designed wooden racks, and the latter in self-sealing plastic bags. Instrumental analysis consists of microscopy using visible, ultraviolet, and polarized light. Chemical analysis of materials and cross-sections is undertaken as needed.

The architectural conservator may glean from his/her observation and analysis the following data: the substrate's material and condition; the number of paint layers in the cross-section; the physical properties of those layers such as color, relative gloss, and texture; the composition of the paint coatings, including the pigments, mediums, and additives present; the application tools and techniques employed; protective and decorative paint finish systems; environmental factors that may have affected the sample; and inherent vice.³

Wallpaper. Wallpaper-sample artifacts arrive at the laboratory in many shapes and sizes. In addition, an individual sample may be composed of multiple layers, representing different periods of wallpaper, that will have to

be separated as part of the sample's processing. Wallpaper can be separated by dry or wet methods.

Visual analysis, often aided by a binocular microscope, is undertaken to identify wallpaper design patterns, principal colors, paper textures, manufacturing processes, and printing techniques. Polarized-light microscopy and chemical analysis are undertaken to identify the paper and paint types. Dates are ascribed based upon both stylistic and materials analyses. Cleaned and dried wallpaper samples are encapsulated in Mylar and placed flat in storage cabinets.

Nails. Nail artifacts generally consist of the complete nail, although sometimes only fragments of nails can be obtained. The nail artifact is stored in a self-sealing plastic artifact bag. Nail analysis consists simply of magnifying the nail with the assistance of a binocular microscope or hand-held lens to record the nail's diagnostic features. Identification of these features enables the architectural conservator to group the nails according to type; i.e., whether wrought, cut, or wire. The identification of type helps to date the nails, and presumably leads to the dating of the architectural features from which they were taken.

To identify nails according to a type, it is necessary to examine the nail in detail. The basic parts of the nail are the head, the shank, and the driving end. What allows the dating of nails are the telltale signs of the manufacturing processes that become distinguishing characteristics. Identifying these characteristics enables us, in turn, to group the nails into periods of manufacture. Knowing the evolution of technological developments in the manufacture of nails in a specific geographical region allows the diagnostic markings to date the likely period of use in a historic structure.

Plaster/Mortar. A plaster- or mortar-sample artifact gathered by the architectural conservator can typically fit in the palm of the hand, usually 30 or 40 grams. Twenty grams are required for analysis. At the laboratory, the samples are compared microscopically prior to analysis. Mortar analysis by acid digestion provides constituent percentages of sand, lime, and cement. The physical remains include sand, fines,⁴ hair and/or other fibers, etc. The remains are placed in separate test tubes and stored in self-sealing plastic artifact bags.

Following the computation phase, the resultant sample data is compared. The comparative data includes the ratios of the sample constituents analyzed in terms of percentages, the similarities of sands, and the similarities of fines. Analysis of these samples may provide two types of information. First, the comparative analysis might offer insight into the physical evolution of the structure. Second, the data from individual testing might enable the replication of historically appropriate and physically compatible mixes for restoration purposes.

Notes (Learning Through the Lens...)

¹ Skilled as an interdisciplinary professional, the architectural conservator has been described as "a preservation technologist who attempts to combine the perspective of an architectural historian with the overall approach of an architect and the scientific focus of a conservator." National Conservation Advisory Council, *Report of the Study Committee on Architectural*

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Conservation (Washington, D.C., 1977), p. 7. In addition, it should be noted that the architectural conservator conforms to the guiding principles of the archeologist in the process of meticulously exposing and analyzing the different layers of cultural history that comprise any structure.

² The John Adams and John Quincy Adams birthplaces stand on their original foundations, next to one another at the foot of Penn's Hill in Quincy, Massachusetts. On November 10, 1978, the Adams birthplaces became part of the Adams National Historic Site.

³ Thomas Boylston Adams was the youngest son of John and Abigail Adams, born in 1772. Thomas and his wife (Ann Harrod) had seven children. The four youngest were born in his father's birthplace; one of these children lived less than a year.

Notes (Artifacts of the ...)

¹ Samples are retrieved by other types of professionals as well. In addition, artifacts that did not begin their life as fragments of the building itself may be cataloged into the relevant subcollection. This may include modern materials such as examples of reproduction wallpaper made for a restoration project.

² The project goals may have a historical and/or diagnostic orientation.

³ Degradation of fabric due to factors inherently present in its composition, manufacturing process, and/or application.

⁴ Fines are insoluble finely grained particles.

Who's Who

Edward A. Johnson is the research coordinator at the Center for Historic Preservation, Middle Tennessee State University in Murfreesboro, TN.

Roberta G. Reid, assistant architectural collections manager and associate conservator at the Colonial Williamsburg Foundation, manages their collection of architectural fragments and models in Williamsburg, VA.

Barbara J. Coffee is a museum consultant having recently retired from the Smithsonian Institution after working in collections management at the National Museum of American History, Washington, DC.

Carole Louise Perrault is an architectural conservator at the Cultural Resources Center of the North Atlantic Region of the National Park Service, Lowell, MA.

Tony P. Wrenn is the archivist for the AIA Library and Archives, Washington, DC.

Emogene A. Bevitt is a preservation program specialist in the Preservation Assistance Division of the National Park Service, Washington, DC. She coordinated this update.

Publications on Architectural Records

Tony P. Wrenn

While there is no uniform definition of "architectural records" in general it includes architectural drawings, and anything related to architectural design including published works, specifications, photographs, postcards, correspondence with clients, etc. The underlying concept being that no building exists in a vacuum, it is part of a larger built environment and the architectural records provide some of the background for better understanding the building and its surroundings, and the architect.

Two organizations that have identified helpful publications on architectural records are the American Institute of Architects (AIA) Library and Archives and an organization called the Co-operative Preservation of Architectural Records (COPAR). COPAR goals include publicizing architectural records and providing responsible information about identifying and preserving them. There are currently COPAR chapters in Utah, New York City, California, Massachusetts, Connecticut, Virginia, North Carolina, and Metropolitan Washington DC.

There is an active Architectural Records Roundtable as part of the Society of American Archivists and the Art Librarians Society of North America also has an architectural records interest group. Several other professional groups also have developed architectural record programs. The Research Library Group is planning a three year effort in the United States and Canada that will involve architectural records of various types in 11 university and other architectural record repositories. The program is intended to pull together diverse records in a technologically usable "virtual" architectural records archive.

For those trying to find or preserve architectural records, possible collections or collectors may be as close as a public library or local historical society. COPAR and its chapters can be contacted for their advice on how to find or save records. In general, it is advisable for architectural records to be retained in the geographic area of the buildings that were built, because interest in and use of the records is more likely.

Publications on Architectural Records

Proceedings of a seminar on the care and management of architectural records, October 27-28, 1992, Syracuse, N. Y.: New York State Architectural Records Needs Assessment Project, Marty Hanson, Preservation Administrator, Syracuse University Library, Administration Office, 222 Waverly Avenue, Syracuse, NY 13244-2010. Now being prepared for publication.

Proceedings of a working conference on establishing principles for the appraisal and selection of architectural records, April 14-16, 1994, Montreal, Quebec, Canada, held at the Canadian Centre for Architecture, sponsored by the Joint Committee on Canadian Architectural Records and Research (JCCARR) and the

Society of American Archivists (SAA) Architectural Records Roundtable, Nicholas Olsberg, Conference Chair, Canadian Centre for Architecture, 1920 rue Baile, Montreal, Quebec, Canada H3H 2S6. Proceedings and conference statement now being prepared for publication, possibly as an issue of the *American Archivist*.

Proceedings of the symposium on the appraisal of architectural records, held April 26, 1985, Cambridge, Massachusetts, Cambridge, Massachusetts: Massachusetts Committee for the Preservation of Architectural Records, P. O. Box 129, Cambridge, MA 02142, 1987, \$8.00 including mailing.

Porter, Vicki, and Robin Thornes. *A Guide to the Description of Architectural Drawings*, Boston, Massachusetts: G. K. Hall, 1994. Publication of the Architectural Drawings Advisory Group, Foundation for Documents in Architecture, on behalf of the Getty Art History Information Program.

Ross, Jeffrey J., et al. *Cataloging Architectural Drawings: A Guide to the Fields of the RLIN Visual Materials Format*, Tucson, Arizona: Art Libraries Society of North America, 1992.

Schrock, Nancy Carlson. *Architectural Records Management*, Washington, DC: American Architectural Foundation, 1735 New York Ave. NW, Washington, DC 20006, \$2.50 including mailing.

Schrock, Nancy Carlson, and Mary Campbell Cooper. *Records in Architectural Offices: Suggestions for the Organization, Storage, and Conservation of Architectural Office Archives*, Cambridge, MA: Massachusetts Committee for the Preservation of Architectural Records, P. O. Box 129, Cambridge, MA 02142, June 1992, \$12.00, plus \$3.00 for mailing.

Toward standards for architectural archives, proceedings of a two-day conference made possible by a grant from the National Endowment for the Humanities, February 1984, Washington, DC: American Architectural Foundation, out-of-print.

Co-operative Preservation of Architectural Records (COPAR) Publications

A Newsletter for COPAR, a national clearing house of information on architectural records and architectural records repositories, published quarterly by the Library of Congress and The Metropolitan Washington

COPAR, editor, Sally Sims Stokes, National Trust for Historic Preservation Library, McKeldin Library, University of Maryland, College Park, MD 20742. Published and mailed by the Prints and Photographs Division of the Library of Congress, free. Data on architectural records or queries on same, plus changes and additions to the mailing list should be sent to Ms. Stokes, the editor.

Committee for the Preservation of Architectural Records. *Architectural Research Materials in Philadelphia: A Guide to Resources*, New York: Committee for the Preservation of Architectural Records, 1980.

Cummings, Kathleen Roy. *Architectural Records in Chicago: A Guide to Architectural Research Resources in Cook County and Vicinity*, Chicago, Illinois: Burnham Library of Architecture, the Art Institute of Chicago, 1981.

Hanford, Sally. *Architectural Research Materials in the District of Columbia*, Washington, D.C.: American Institute of Architects Foundation, 1982.

Ison, Mary. *Architectural Research Materials in New York City: A Guide to Resources in All Five Boroughs*, New York: Committee for the Preservation of Architectural Records, 1977.

Ison, Mary. *National Union Index to Architectural Records*, Washington, DC: Prints and Photographs Division, Library of Congress, 1986. Being updated under the auspices of Metropolitan Washington COPAR, with data from the original electronically recovered, and updating to begin in 1994.

Lowell, Waverly B. *Architectural Records in the San Francisco Bay Area: A Guide to Research*, California Cooperative Preservation of Architectural Records, New York: Garland, 1988.

Schrock, Nancy Carlson. *Architectural Records in Boston: A Guide to Architectural Research in Boston, Cambridge and Vicinity*, Massachusetts Committee for the Preservation of Architectural Records, New York: Garland, 1983.

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